

Irrigating Your Garden

There are many factors involved in developing an irrigation schedule for your garden. These factors include soil particle size (sand, clay), chemical properties of the soil, slope, sun/shade, plant rooting depth, plant water needs, soil amendments, mulch, type of irrigation system, rate of application, so on and so forth. However, the person who is establishing the irrigation schedule does not have to be formally educated in the field of irrigation in order to develop a good schedule.

Observing what is happening in each garden area is the key to good watering practices. Get to know your soil-determine how quickly the water being applied by your existing irrigation system is absorbed, the 'run-off' point of time, the depth of absorption, and how quickly the soil dries out in the root area. You will need to do some observing and digging in your soil to determine this information.

On a well designed and maintained irrigation system any one valve (station) should have the following:

1. plants with similar water needs
2. plants with similar rooting depth
3. same sun/shade exposure
4. slope
5. matched precipitation (nozzles or other type of emitting devices that apply water at an even rate)
6. emitting devices that operate at the actual operating pressure
7. emitting devices that cover the proper area.
8. emitting devices not blocked by plants or other objects.

Your system probably does not meet the above criteria. Alter it where possible-change sprinkler nozzles to help slow the water application rate, prune or transplant plants blocking sprinkler distribution, etc. Then develop your irrigation schedule based on the knowledge you have acquired from your observations.

Our typical garden plants require the most water during the summer and little in the winter. Starting in spring, here in the Central Valley plant water needs increase each month through July. After July, plants need less water each month, and by November, often little or no irrigation is required until March or April depending on the season's rainfall. Ideally, your irrigation timer should be reprogrammed on a monthly basis to give your plants the correct water for optimum growth and to save water.

The following chart shows the approximate lawn watering time needed in minutes per week for both warm and cool season grasses using both spray and rotor heads if there is no rainfall. Warm season grasses grown in our region include Common Bermuda, Hybrid Bermuda, and Buffalo Grass; they thrive in hot weather and turn brown due to dormancy in cold weather. Cool season grasses grown in our region include both Fine and Tall Fescues and Perennial Ryegrass (used to over seed winter-dormant grasses); these grasses thrive in the spring and fall and maintain their color year round. Cool season grasses require more water than the warm season grasses.

Approximate Lawn Watering Time
(in minutes per week)

Warm Season Grass			Cool Season Grass			
Rotor minutes	Spray minutes	% of July	Month	Rotor minutes	Spray minutes	% of July
20	5	12	January	20	5	8
36	9	21	February	50	13	20
88	22	51	March	100	25	40
120	30	70	April	196	48	76
136	34	79	May	166	41	65
136	34	79	June	232	58	92
172	43	100	July	252	63	100
140	35	81	August	182	46	73
88	22	51	September	116	29	46
52	13	30	October	62	16	26
24	6	14	November	36	9	15
12	3	7	December	14	4	6

To use this chart remember that the minutes of watering time needed is for an entire week, so you must consider the frequency that you are going to water during the week. Let us use July with a cool season grass and spray heads as our example. We chose to water three days a week, and cycle three times on our watering days to avoid run-off; then 63 minutes per week divided into 3 days equals 21 minutes per day. Three cycles per day makes the 21 minutes per day into 7 minute cycles.

Ideally, timers should be reprogrammed monthly. If your irrigation timer has a **water budget (%)** feature, the timer may be programmed in the spring for the anticipated July usage (100%) and then on a monthly basis rather than reprogramming all of the run times just the **water budget (%)** feature needs to be adjusted to reflect the monthly **% of July**. Using the example above with the lawn needing 63 minutes a week in July, then setting the **Water Budget (%)** for March at 40%, gives 40 % of 63 minutes, or roughly the 25 minutes of irrigation needed, divided equally between the days of the week and all cycles.

Recognize that the above chart is based on historical averages and may not meet the current needs of your lawn because of unusual weather.